

## CLAIMS

1. A stopper for closing bottles, more particularly wine bottles, at least partially made of synthetic material and having at least a generally cylindrical length to be inserted in the bottle neck, comprising at least a tubular duct adapted to put the residual volume of air present inside the bottle in communication with the outer ambient through at least a membrane provided with microholes and arranged transversely to said tubular duct and allowing the passage of oxygen from the bottle interior to the outer ambient and viceversa.

2. The stopper according to claim 1 wherein the size of the diameter of said microholes is such as to avoid the passage of liquids.

3. The stopper according to claim 1, wherein said microholes of said membrane have a diameter between about 0.01 and about 0.5 microns.

4. The stopper according to claim 1, wherein said membrane is made of a film of acrylic copolymer anchored to a support of non woven fabric.

5. The stopper according to claim 1, wherein the membrane is made with a film of fluorinated polymer.

6. The stopper according to claim 1, wherein the membrane is made with a polyamide film.

7. The stopper according to claim 1, wherein said membrane is fixed inside a tube provided in said tubular duct.

8. The stopper according to claim 1, wherein the synthetic material by which said stopper is made belongs to the group of polyethylene resins added with an expansion agent.

9. A stopper for insertion into the neck of a liquid containing bottle having a residual volume of gaseous atmosphere in the interior of the bottle above the liquid comprising:

a body having opposite ends and a generally cylindrical shape, and a tubular through duct extending between the ends; and

a membrane secured transversely across the duct for allowing communication between the interior and exterior of the bottle, said membrane being secured in the through duct and having microholes therethrough for allowing the passage of gaseous atmosphere from the interior of the bottle to the exterior of the bottle, and to selectively block the passage of liquid therethrough.

10. The stopper according to claim 9, including a tube secured in the duct and wherein the membrane is secured inside the tube.

11. The stopper according to 9, where in the body is formed of a synthetic matherial comprising at least one of a film of acrylic copolymer anchored to a support

of a non woven fabric; a polyethylene resins mixed with an expansion agent; a polyamide film; and a fluorinated polymer.

12. A stopper for closing bottles comprising:

a cylindrical body having a tubular duct and a membrane having microholes and arranged transversely to said tubular duct said holes being sized for selectively allowing the passage of oxygen while inhibiting passage of liquid therethrough.

13. The stopper according to claim 12, wherein said microholes have a diameter between about 0.01 and about 0.5 microns.

14. The stopper according to claim 12, wherein said membrane is formed of at least one of a film of acrylic copolymer; a film of fluorinated polymer; a polyamide film.

15. The stopper according to claim 12, wherein the membrane includes a peripheral support of non-woven fabric.

16. The stopper according to claim 12, including a tube disposed in said tubular duct and wherein the membrane is fixed within said tube.

17. The stopper according to claim 1, wherein the stopper is formed of a polyethylene resin and an expansion agent.